Rana University
Faculty of Economics
Finance Department

Course Title	**RedHat Enterprise Linux 7**
Lecturer Name	**Baitullah Paktin**
Credit Hours	**4**
Lecture Days	**Tuesday-Thursday**
Lecture Timing	**Early Morning, Morning, Evening**
Class No.	**607**

Course Description

This course will equip the students with the RHEL7 administrative skill. The course has three main phases which start with the basics of the course then to the medium level and finally the advance RHEL7 administrative tasks. The course is about 90% practical.

Course Objective

This course will provide a basic to advance RHEL7 skills to the students, the students will learn how to implement, manage, control and administer a network using the RHEL7 operating system by the end of this course.

Teaching Method

- Lecture Slides/Explanation
- Discussion
- Questioning
    - Hands-on/Inquiry
- Practical work:
    - Computer lab
    - Practical home-works
    - Assignments

Learning Outcome

: By the end of the course, students will be able to

1. have basic open source operating system skills
2. have Linux CLI skills
3. manage the Linux client OS
4. have the basic Linux Networking skills
5. configure advance Linux server features such as:
    a. DNS (Bind) Server
    b. DHCP Server
    c. Telnet

d. SSH Server
e. FTP Server

6. To manage and administer a small to medium size network using Linux server.

Course Plan

Weeks	Chapters	Teaching Method	Remarks
1	**Introduction of the course:** - Open source vs non-open source software - Philosophy of open source software - Open source software usage - Introduction to RHEL7 desktop environment - RHEL7 installed - RHEL7 terminals - Bash shell - Executing commands using bash shell - Basic commands - RHEL7 file system hierarchy	Theory & Practical	Assisting the students upon the suggested book (E-Business & E-Commerce "How To Program" by Robert F.Meigs and Walter B.Meigs:11 Edition ,2002)
2	**Managing files & getting help in Linux** - Creating directories and files - Copying directories and files - Moving directories and files - Renaming directories and files - Deleting directories and files - - Getting help using man command - Getting help using –help command - Getting help using pinfo command - SoS Report	Theory	**Homework**
3	**Viewing and editing text files:** - Viewing & creating files with cat command - Editing files with vim editor - Editing files with gedit editor - **COMPUTER LAB (STUDENTS PRACTICE)** -	Theory	**Homework**
4	**local users and groups and Managing files & folder permission** - Local users and groups in Linux - Creating users and groups - Deleting users and groups - Adding users into groups - User ID and Group ID in Linux - Resetting users password - Password policies - - Default file and directory permission - Setting file and directory permissions - Modifying files and directory permission - Setting umask value	Theory	**Homework**

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5	**Displaying Linux Process:** - Displaying Linux process using different commands **- COMPUTER LAB (STUDENTS PRACTICE)**	Practical	**Homework**
6	**Services & Daemons plus logs & yum server:** - Viewing Linux services - Starting, stopping, restarting, disabling, enabling services - Viewing Linux logs using different commands - Installing, uninstalling and updating software using yum **- COMPUTER LAB (STUDENTS PRACTICE)** -	Theory	**Homework**
7	**Managing RHEL7 Networking & SSH configuration** - Viewing the current IP add of the system - Setting dynamic IP address - Setting static IP, DNS server IP and default gateway - Editing the ip configuration file - Different usage of the nmcli command - Setting hostname and viewing hostname configuration file - Configuring SSH - Access remote system using SSH - -	Practical	**Homework**
8	**Copying files between systems & controlling access to the files** - Copying files between systems using scp - Access Control List (ACL) - Securing files with ACL - Interpreting ACLs **- COMPUTER LAB (STUDENTS PRACTICE)** -	Practical	**Homework**
9	**Mid-Term Exam**		
10	**Managing SELinux security** - SElinux - Changing SELinux modes - Changing SELinux Booleans **- COMPUTER LAB (STUDENTS PRACTICE)** -	Practical	**Homework**
11	**Adding disks, managing file system in Linux & LVM (Logical Volume Management)** **AND Accessing network storage using NFS & controlling and**	Practical	**Homework**

	troubleshooting Linux boot process - Adding disks - Managing partitions - managing file systems - managing swap space - adding logical volumes - managing logical volumes - Creating mounting network storage using NFS - automating network storage using NFS - Linux boot process - Selecting a target boot - Issue during boot process		
12	**Managing IPv6 networking & Network Port Security:** - Viewing and configuring IPv4 - Configuring IPv6 networking - Viewing ipv6 - Different functions of nmcli command - Managing and configuring firewall - Writing custom rules - Port forwarding and labeling - **COMPUTER LAB (STUDENTS PRACTICE)** -	Practical	**Homework**
13	**Installation and management of DNS server** - What's DNS sever - DNS server installation DNS Cache - - DNS uninstallation - **COMPUTER LAB (STUDENTS PRACTICE)**	Theory	**Homework**
14	**DHCP Server & MariaDB:** - DHCP - DHCP server installation - DHCP Server Configuration - DHCP Server uninstallation - MariaDB installation - MariaDB commands - MariaDB users management - **COMPUTER LAB (STUDENTS PRACTICE)**	Practical	**Homework**
15	**Apache Web Server:** - what is apache web server - apache HTTPD - installation - uninstallation - **COMPUTER LAB (STUDENTS PRACTICE)**	Practical	
16	**Mail server configuration:** - what's mail server - mail server installation	Practical	**In accordance with exam schedule**

	- mail server uninstallation - **COMPUTER LAB (STUDENTS PRACTICE)**		
17	**Final Exam**		
Refere nce	E-Business & E-Commerce “How To Program” by Robert F.Meigs and Walter B.Meigs:11 Edition ,2002 www.W3schools.com www.tutorialspoint.com		

Class Discipline

To maintain control and manage the classroom properly I’m applying the following rules and discipline in my classes.

- Trying to include rules on my syllabus.
- Talk about my rules on the first day of class
- Trying to know students by name.
- Trying to act professionally.
- Exploring the discipline issue before acting.

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Assessment Method

A useful beginning point in determining the optimum mix of assessment methods is the resources and I select the

Following assessment method.

- Independent Work
- Guided Instruction
  - Practice Sheets
- Project/Presentation
  - Conference with students
  - Test/Quiz
  - Other _____

Exam Method

Not allowing the students to whisper during the exam. (if catcht the place will be - changed)

.Cheating by any means the paper will be canceled -

.Not allowing to use cell phone, mobile, tablets …etc-

.exam will be conducted written -

Prepared by:

Approved by

Khawaja Sharif Sediqi